DOCUMENT RESUME

ED 052 298 VT 011 986

AUTHOR	Spilerman, Seymour
TITLE	Industry Differences in Stability of the Rate of Negro Employment.
INSTITUTION	Wisconsin Univ., Madison. Inst. for Research on Poverty.
SPONS AGENCY	Office of Economic Opportunity, Washington, D.C. Office of Program Development.
REPORT NO	IRP-Discuss-Pap-59-69
NOTE	32p.
AVAILABLE FROM	Institute for Research on Poverty, University of Wisconsin, Madison, Wisconsin 53706
EDRS PRICE	EDRS Price MF-$0.65 HC-$3.29
DESCRIPTORS	Employment Opportunities, *Employment Patterns, *Industry, *Negro Employment, Negroes, Promotion (Occupational), *Racial Discrimination

ABSTRACT

This investigation is concerned with the ways in which the rate of Negro employment is constrained in different industries. Two types of stability in the employment of Negroes are postulated relating to an industry's responsiveness to community percent Negro, and to the organizational imperatives for a unique racial division of labor. An empirical method for classifying industries according to their stability patterns is also introduced. The results from applying this procedure indicate the presence of a very different industry distribution of Negro labor in small and large proportion Negro communities. Also, a two-step process to Negro occupational advancement is suggested. (Author)

ED052298

59-69

0-7
19

INSTITUTE FOR RESEARCH ON POVERTY

INDUSTRY DIFFERENCES IN STABILITY OF THE

RATE OF NEGRO EMPLOYMENT

by

Seymour Spilerman

DISCUSSION PAPERS

VT011986

THE UNIVERSITY OF WISCONSIN, MADISON, WISCONSIN

1

ED052298

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

INDUSTRY DIFFERENCES IN STABILITY OF THE RATE OF NEGRO EMPLOYMENT

Seymour Spilerman
University of Wisconsin

The research reported here was supported by funds granted to the Institute for Research on Poverty at the University of Wisconsin by the Office of Economic Opportunity, pursuant to provisions of the Economic Opportunity Act of 1964. I wish to thank David Dickens for his assistance with the statistical computations, and Professors Raymond Breton and James S. Coleman for their supervision of the doctoral dissertation from which this paper derives. The conclusions are the sole responsibility of the author.

ABSTRACT

This investigation is concerned with the ways by which the rate of Negro employment is constrained in different industries. Two types of stability in the employment of Negroes are postulated--relating to an industry's responsiveness to community percent Negro, and to the organizational imperatives for a unique racial division of labor--and an empirical method for classifying industries according to their stability patterns is introduced. The results from applying this procedure indicate the presence of a very different industry distribution of Negro labor in small and large proportion Negro communities. Also, a two-step process to Negro occupational advancement is suggested by the analysis.

Industry Differences in Stability of the Rate of Negro Employment

1. INTRODUCTION

While considerable attention has focused in recent years on disparities in the occupational distributions of Negroes and whites, much less has been given to a consideration of their industry distributions. It is, of course, understandable that the occupational dimension would command the main interest in studies concerned with the labor force situation of Negroes. Occupations are, after all, highly appealing conceptual categories. They are relatively homogeneous in terms of skill and educational requirements; and, what is more important for the purpose of comparing racial groups, occupations can be ranked on earnings, social status, and on other measures of desirability. In fact, because of this hierarchial nature to the occupational structure, the assimilation of immigrant and racial groups into the economy has been conceptualized in terms of a decreasing over-time correlation between ethnic or racial membership and occupational status (Lieberson, 1963).

However, while over-time changes in occupational position may provide a useful benchmark for measuring the rate of progress by Negroes, to explain this rate one must consider their distribution among the industries. It is not the case that opportunities for occupational advancement, or for stable and secure employment, or the wages paid for a particular skill are the same in all industries. For this reason, to assess the prospects for future improvement in the occupational position of Negroes and, more generally, to investigate the consequences of the way they are structured into the

labor force, it is necessary to consider the more important implications of their industry distribution.

There are a number of reasons why one would expect industries to have characteristic propensities to employ Negro labor. Industries[1] differ in the mix of skills they require, and the occupational distributions of the races are considerably different from one another. Industries differ in the attractiveness of the intrinsic rewards they offer--wage rates, stability of employment, the opportunity for occupational advancement--in short, in the things that make jobs worth fighting over.[2] Industries differ in the extent to which they emphasize universalistic standards in the hiring process rather than ascribed attributes, and also in the very organization of work. In some, tasks are performed in small, intimate social groups, and require coordination and trust among the workmen (settings in which white resistance to the introduction of Negro workers is likely to be intense); while in other industries the technology may compel employees to work independently and even while physically isolated from one another (settings which should be easier for Negroes to penetrate) (Dewey 1952, p. 285). Finally, industries differ in the degree of employee unionization, and in whether the product market is competitive or monopolistic. Both of these considerations have been discussed in relation to Negro employment opportunity (Becker 1957, pp. 33-42, 54-56).

A method for defining an industry-specific propensity to employ Negro labor has been described elsewhere (Spilerman 1970). Here, only the main considerations which entered into the construction of that measure need to be discussed. Essentially, these were two: First, it was felt that the propensity for an industry should be based on community-level data rather

than on national rates; and second, that the measure should be defined as an average of the industry's Negro employment rates in several communities.

The rationale behind the first consideration is that national data confound two very different determinants of the rate of Negro employment. National rates are influenced by the factors enumerated in the preceding paragraphs which relate to inter-racial competition and discrimination. However, national rates also reflect the consequences of geographic location by the firms in an industry. Some industries, such as aircraft manufacturing and textile mills, are concentrated in communities with relatively small Negro populations and therefore would have low Negro employment rates in aggregated national data irrespective of whether they discriminate against Negro job applicants. Other industries, which do discriminate against Negroes, may have high rates of Negro employment in the national statistics simply because their plants are situated in locales with large proportion Negro populations. For this reason community-level rates appear to be more suitable than national rates for use in the construction of an industry propensity to employ Negro labor.

The second consideration is designed to compensate for variations in the pattern of Negro employment across communities. Many factors enter into the determination of the prevailing racial division of labor in a locale--its history of migration, the mix of industries, and the traditions and mores of the community. By an <u>industry</u> propensity, however, we imply a tendency to employ Negro labor which, in theory, is invarient of location. This suggests that the measure be defined as some average of the industry's Negro employment rates in several communities in order to remove the effects of local disturbances.

Combining these two considerations resulted in the following measure of the industry propensity--

$$M_I = \frac{1}{k} \sum_{c=1}^{k} M_{Ic} = \frac{1}{k} \sum_{c=1}^{k} \frac{\left(\frac{N_{Ic}}{T_{Ic}} - \frac{N_c}{T_c}\right)}{SD_i\left(\frac{N_{ic}}{T_{ic}}\right)}$$

where,

$\frac{N_{Ic}}{T_{Ic}}$ = percent Negro employment in industry I, community c,

$\frac{N_c}{T_c}$ = labor force percent Negro in community c, and

k = the number of communities over which the average is calculated.

Each term in the above summation represents an estimate of the propensity for industry I from a different community. The standard deviation term in the denominator is computed over all industries in a community, and standardizes for community differences in the dispersion of Negro employment among industries. This definition has the following useful interpretation: On the average, Negroes in industry I are employed at M_I standard deviations from the community percent Negro figure.

Regional values of the propensity measure for each of 42 industries, computed from 1960 Census data covering 100 SMSA's, are presented elsewhere (Spilerman 1970). The subject of the present paper concerns the related question of <u>stability</u> in the pattern of Negro employment; and, in particular

the consistency of the k community estimates of the M_I propensity for an industry. In section 2 the conceptual importance of two types of stability--stability of the propensity estimates and stability of the unadjusted Negro employment rates from different communities--are considered. In section 3 the results from an investigation of the stability patterns in the South and non-South are reported, and several implications of these results are discussed.

2. THE CONCEPT AND MEASUREMENT OF STABILITY

Determinants of stability--The topic of stability of the pattern of Negro employment by industry is not only an academic concern. It relates directly to the pressing need in the country for increasing Negro opportunity in industries where their representation has traditionally been small. An analysis of stability is relevant to ascertaining the likely difficulty of altering an industry's prevailing racial division of labor. For example, low stability in the pattern of Negro employment indicates that the use of Negro labor in the industry varies considerably by community and, consequently, that the industry can accommodate a variety of racial divisions of labor. An industry with low stability would therefore be an attractive candidate for manipulative efforts to increase Negro employment. By comparison, high stability, or a consistent pattern in the employment of Negro labor across communities, suggests a functional need for a particular racial division of labor by the industry and, as a result, the likelihood of considerable resistance to increasing the level of Negro employment.

What factors are likely to influence the inter-community variability of Negro employment in an industry? Three considerations appear particularly

relevant. First, the variability will depend upon the industry's sensitivity to community mores. Where an industry is responsive to local traditions that define which work positions are appropriate for Negroes, the variability across communities will be high. Second, the variability will be a function of the persistence of historical events in the labor force histories of the various communities. The persistence of accommodations to circumstances in the past is likely to vary by industry, as a result of differences in adaptability by their respective typical organizational structures. Third, the variability should be inversely related to the intensity of preference by white employees, or white customers, for a particular racial division of labor, assuming this preference derives from norms which have wide geographic applicability and not merely local importance.

Community mores define a customary allocation of work positions between the races and thereby directly influence hiring practices. Certain jobs in a plant come to be designated as the proprietary rights of white workers, others are considered as suitable only for Negroes, while still other positions may remain without racial qualification and open to competition between members of both races. The very limited geographic range of many of these mores has been underlined by Herman Feldman (1931, p. 27).

> "The large degree to which the attitudes of workers, like those of industrial officials, are a matter of circumstance and environment, is indicated by the many contrasts to be found among plants in neighboring communities. In some cases there is strong opposition to the introduction of Negro workers in a particular process, when in fact many Negroes are already employed in this capacity in neighboring localities."

Industries are likely to differ in their responsiveness to community mores as a result of considerations such as whether local or absentee ownership of firms is the prevailing organizational pattern, and whether the product is retailed locally or marketed primarily outside the community. To the extent that an industry is sensitive to community norms, whether for these or for other reasons, the stability in its pattern of Negro usage will be lowered.

Among the historical events in the labor force history of an industry, probably the most significant is the racial composition of the labor force in a community at the time of the industry's introduction, and at its periods of rapid expansion. The racial division of labor which was established in these times often tends to persist well into the future. Thus, Donald Dewey (1952, p. 287) commenting on southern industry, writes, "In a new plant any number of fortuitous circumstances may influence the racial employment pattern that emerges. Once, however, a particular division of labor proves serviceable... it tends to persist until the local labor market is rudely shaken by war or depression." Dewey did not investigate whether the perpetuation of the initial racial pattern varies by industry. However, there are reasons to expect industry differences in this variable. Persistence is probably greatest where the different work tasks required by the technology can be clearly distinguished from one another and are highly visible, so that it becomes difficult to "re-classify" a position racially; also where employee turnover--such as may result from seasonality--is low (Dewey 1952, p. 285).

The above comments suggest some of the factors which promote variation across communities in an industry's pattern of Negro usage. Opposing these

tendencies toward variability are several aspects of a firm's social organization which are likely to vary in their presence by industry. As examples, plant size is related to the presence of bureaucratic procedures such as the use of universalistic criteria in hiring. Or, technological complexity suggests the likelihood of a greater emphasis on training and competence than on ascribed characteristics. As an illustration of a very different type of stability arising from organizational structure, where the work positions in an industry can be divided into two distinct categories which are separated by a wide difference in skill requirements or in status, the racial division of labor is likely to be stable since the local consensus is unlikely to vary by community. As the examples here suggest, there are really two very different types of stability in Negro employment. These are discussed in the following sections.

Stability of the propensity values--Probably the single most important community characteristic which influences the rate of Negro employment in an industry is the proportion Negro in the labor force. Industries which are responsive to this factor adjust to it in either of two ways. For some, adaptation is through a change in the proportion of firms which employ a predominantly Negro labor force. This manner of response is expected from industries in which services are provided on a segregated basis, with Negro labor being employed to serve a Negro clientele, and correspondingly for whites. Neighborhood retailing and religious institutions are examples of industries which are commonly organized on this basis.

An alternative manner of response to the community percent Negro value can be effected through a change in the racial composition of individual

firms. Where impersonalistic bureaucratic criteria have been institutionalized in the hiring process, or where most work positions lack the characteristics which can stimulate an intense preference on the part of employees or customers for interacting with members of their own race,[3] the Negro employment rates of the individual firms are likely to co-vary with community percent Negro.

Both of these adaptations have in common a sensitivity to the size of the Negro population, expressed in percentage terms.[4] Since we do not know the actual response function of an industry to a change in community percent Negro, we make the simplifying assumption of proportionate response. Accordingly, if an industry is responsive to community percent Negro, then an x-percent change in this value should induce an identical percent change in the industry's rate of Negro employment. With this assumption, sensitivity to community percent Negro can be identified with stability of the industry propensity, M_I.

To show this, let M_{Ic} be the estimate of industry I's propensity from community c--

$$M_{Ic} = \frac{\frac{N_{Ic}}{T_{Ic}} - \frac{N_c}{T_c}}{SD_i\left(\frac{N_{Ic}}{T_{Ic}}\right)} \qquad (1)$$

Assume now that the standard deviation of the industry rates of Negro employment in a community is proportional to the Negro population percentage.[5] The standard deviation can therefore be expressed as $SD\left(\frac{N_{Ic}}{T_{Ic}}\right) = b\frac{N_c}{T_c}$ for

some value of b. Substituting this relation into equation (1) yields--

$$M_{Ic} = \frac{\frac{N_{Ic}}{T_{Ic}} - \frac{N_c}{T_c}}{b\,\frac{N_c}{T_c}}$$

and, solving for $\frac{N_{Ic}}{T_{Ic}}$ --

$$\frac{N_{Ic}}{T_{Ic}} = (1 + M_{Ic}b)\,\frac{N_c}{Tc} \qquad (2)$$

Consequently, if both $\frac{N_c}{T_c}$ and $\frac{N_{Ic}}{T_{Ic}}$ are multiplied by the same value (experience an identical percentage increase), M_{Ic} will remain unchanged (and conversely) since b is a constant. As a result, a low standard deviation of the community estimates of M_I (high stability of the M_I propensity) is indicative of a situation in which the industry rate of Negro employment is a constant proportion of community percent Negro.

Stability of the Negro employment rate--A second type of stability of Negro employment in industry occurs where the work positions are so clearly distinguishable into Negro and white jobs that the local consensus on the racial division of labor hardly varies by community. Examples of industries where such job structures are often found are railroads, medical facilities (hospitals and nursing homes), and hotels. In each instance, a large number of low status or low skill positions need to be filled and Negro labor is preferred for these tasks. Moreover, the pattern of recruitment into the higher status positions is largely by hiring from outside the firm, not through promotion from below.[6] Under this arrangement, the notion of a stable industry propensity is inappropriate since the rate of Negro

employment would be largely unresponsive to community differences in percent Negro. In fact, the propensity estimates from different communities should be inversely related to proportion Negro, being high in small percent Negro communities and low in large percent Negro locales.

By comparison, the unadjusted rates of Negro employment in such an industry should show less variation over communities than the population percent Negro values. In locales with small Negro populations, Negroes would be disproportionately hired to staff the low skill positions, while in large percent Negro communities little Negro overflow into the higher status positions would be permitted. Empirically, this tendency toward a caste division of labor can be ascertained by comparing the coefficient of variation of an industry's Negro employment rates in different communities--$CV(\frac{N_{Ic}}{T_{Ic}})$--with the same statistic for the community percent Negro values.[7]

In the preceding discussion, the possibilities were considered that an industry's Negro employment rate is highly sensitive to the community percent Negro value (stable propensity), or that it is constrained by technology and social organization and, consequently, is unresponsive to community influence (stable Negro employment rate). Where neither condition pertains, an industry will have high variability on both measures--$SD(M_{Ic})$ and $CV(\frac{N_{Ic}}{T_{Ic}})$--and we can only suggest here that the rate of Negro employment is responsive to other community factors than the percent Negro value, which is explicitly considered in this analysis. Or, alternatively, the organizational structure typical of the industry may be one in which the initial, fortuitous, racial division of labor is maintained over time.

3. FINDINGS FOR THE REGIONS

Using 1960 Census data from 100 SMSA's on Negro employment in 41 industry categories,[8] the standard deviation of the community estimates of the propensity--$SD(M_{Ic})$--and the coefficient of variation of the Negro employment rates--$CV(\frac{N_{Ic}}{T_{Ic}})$--were calculated for each industry. With regard to the CV measure, the relevant aspect of this statistic is its magnitude for an industry, relative to the CV for the SMSA percent Negro values. A ratio of the industry to SMSA CV's which is less than one is indicative of a situation in which a particular rate of Negro employment is "functional"[9] for the industry in the sense that the firms appear to regulate Negro employment, keeping the variation in this rate below that expected from the community differences in percent Negro.

Values for the 41 industries on the two measures of stability are presented in Tables 1 and 2 for the non-South and South respectively. The industries were also cross-classified according to their joint scores on the two measures; Tables 3 and 4 present the tabulations. These tables were constructed in the following way: There is a natural category of low variation industries on the CV index, namely industries for which $CV(\frac{N_{Ic}}{T_{Ic}}) \Big/ CV(\frac{N_c}{T_c}) < 1$. It was suggested above that these industries exhibit a tendency toward a caste division of labor and therefore may have a functional need for a particular proportion Negro labor force. The remaining industries were divided into three equal size groups on the CV index. With respect to the SD measure of stability, equal size categories were used since there is no substantive justification for particular break points.

Tables 1-4 about here

TABLE 1. MEASURES OF STABILITY OF NEGRO MALE EMPLOYMENT BY INDUSTRY, FOR NON-SOUTH[a]

Ratio of CV's: Industry percent Negro to SMSA percent Negro		Standard deviation of the industry propensity	
Industry[b]	C.V. Ratio	Industry[b]	$SD(I)_I$
41 Welfare, Religious	.85533	30 Other Retail Trade	.2331
36 Other Personal Serv.	.91784	27 Food, Dairy Retail	.2656
37 Entertainment	.92108	17 Printing, Publishing	.2922
38 Medical, Health Serv.	.98221	31 Finance, Insurance	.3450
28 General Merchandise	1.02781	26 Wholesale Trade	.3791
33 Repair Services	1.03812	9 Electrical Machinery	.3870
30 Other Retail Trade	1.07580	42 Other Professional Serv.	.3906
26 Wholesale Trade	1.11660	24 Communications	.4216
5 Primary Ferrous	1.12091	3 Construction	.4505
21 Railroads	1.12299	39 Education - Public	.4553
3 Construction	1.12688	33 Repair Serv.	.4707
32 Business Services	1.12784	8 Machinery, Except Elec.	.4944
35 Hotels and Lodges	1.13290	28 General Merchandise	.4946
40 Education - Private	1.17654	13 Other Durable Mgf.	.4971
29 Eating, Drink Places	1.18024	40 Education - Private	.4978
25 Utilities and Sanitary	1.21766	22 Trucking Services	.5023
7 Fabricated Metal	1.22316	11 Aircraft	.5409
43 Public Administration	1.24978	2 Mining	.5420
42 Other Professional Serv.	1.26664	7 Fabricated Metal	.5770
17 Printing, Publishing	1.26696	20 Other Nondurable Mgf.	.6331
31 Finance, Insurance	1.27971	38 Medical, Health Serv.	.6463
8 Machinery, Except Elec.	1.28326	25 Utilities and Sanitary	.6551
23 Other Transportation	1.29048	36 Other Personal Serv.	.6590
10 Motor Vehicles & Equip.	1.30623	41 Welfare, Religious	.6626
24 Communications	1.30871	14 Food Products	.6662
20 Other Nondurable Mgf.	1.32911	43 Public Administration	.6723
27 Food, Dairy Retailing	1.37530	4 Furniture & Wood Prod.	.6864
13 Other Durable Mgf.	1.39154	18 Chemical Products	.6911
14 Food Products	1.39972	23 Other Transportation	.7512
11 Aircraft	1.40330	29 Eating, Drink Places	.7634
22 Trucking Services	1.40563	32 Business Services	.7784
18 Chemical Products	1.41980	16 Apparel Products	.8309
6 Primary Non-Ferrous	1.46147	21 Railroads	.8742
9 Electrical Machinery	1.46187	12 Other Transp. Equip.	1.0315
19 Rubber, Plastics	1.46528	37 Entertainment	1.0657
39 Education - Public	1.47306	10 Motor Vehicles & Equip.	1.0743
4 Furniture & Wood Prod.	1.49196	15 Textile Mill Products	1.1104
16 Apparel Products	1.60681	19 Rubber, Plastics	1.1181
15 Textile Mill Products	1.83184	6 Primary Non-Ferrous	1.2482
2 Mining	1.90702	5 Primary Ferrous	1.4597
12 Other Transp. Equip.	2.28872	35 Hotels and Lodges	1.6564

[a] N = 70 except for deletions where the industry/SMSA male employment figure is less than 50. For details see Spilerman (1968, pp. 168-69).

[b] Prefixed numerials refer to industry order in Table 125, 1960 Census of Population.

TABLE 2. MEASURES OF STABILITY OF NEGRO MALE EMPLOYMENT BY INDUSTRY, FOR SOUTH[a]

Ratio of CV's: Industry percent Negro to SMSA percent Negro		Standard deviation of the industry propensity	
Industry[b]	C.V. Ratio	Industry[b]	SD(M_I)
24 Communications	.85269	30 Other Retail	.2393
35 Hotels and Lodges	.87633	36 Other Personal Serv.	.2708
29 Eating, Drink Places	.88927	26 Wholesale Trade	.3002
21 Railroads	.89769	33 Repair Services	.3096
41 Welfare, Religious	.90384	28 General Merchandise	.3309
36 Other Personal Serv.	.90524	27 Food, Dairy Retail	.3764
28 General Merchandise	.94408	11 Aircraft	.3936
30 Other Retail Trade	.99331	31 Finance, Insurance	.4028
38 Medical, Health Serv.	.99473	43 Public Administration	.4164
37 Entertainment	1.03641	42 Other Professional Serv.	.4206
3 Construction	1.04045	17 Printing, Publishing	.4309
33 Repair Services	1.04990	7 Fabricated Metal	.4332
32 Business Services	1.07276	8 Machinery, Except Elec.	.4442
26 Wholesale Trade	1.08558	32 Business Services	.4504
31 Finance, Insurance	1.10324	3 Construction	.4664
5 Primary Ferrous	1.10359	41 Welfare, Religious	.4789
43 Public Administration	1.13667	20 Other Nondurable Mgf.	.4840
39 Education - Public	1.19011	9 Electrical Machinery	.4842
14 Food Products	1.21445	14 Food Products	.5146
25 Utilities and Sanitary	1.23209	24 Communications	.5493
23 Other Transportation	1.24596	38 Medical, Health Serv.	.5748
13 Other Durable Mgf.	1.26474	23 Other Transportation	.6043
27 Food, Dairy Retail	1.28452	21 Railroads	.6092
40 Education - Private	1.31923	10 Motor Vehicles & Equip.	.6116
17 Printing, Publishing	1.35818	39 Education - Public	.6316
7 Fabricated Metal	1.40705	16 Apparel Products	.6491
22 Trucking Services	1.40800	18 Chemical Products	.6666
8 Machinery, Except Elec.	1.41508	13 Other Durable Mgf.	.6935
20 Other Nondurable Mgf.	1.43332	22 Trucking Services	.6936
42 Other Professional Serv.	1.43678	12 Other Transp. Equip.	7034
16 Apparel Products	1.51710	40 Education - Private	.7089
18 Chemical Products	1.59961	37 Entertainment	.7312
6 Primary Non-Ferrous	1.63780	25 Utilities and Sanitary	.7377
4 Furniture & Wood Prod.	1.69111	15 Textile Mill Products	.7527
10 Motor Vehicles & Equip.	1.84084	29 Eating, Drink Places	.8425
15 Textile Mill Products	2.00248	5 Primary Ferrous	.8471
12 Other Transp. Equip.	2.04760	19 Rubber, Plastics	.9235
9 Electrical Machinery	2.08944	2 Mining	1.0671
2 Mining	2.11797	4 Furniture & Wood Prod.	1.0841
19 Rubber, Plastics	2.20487	6 Primary Non-Ferrous	1.2197
11 Aircraft	2.30891	35 Hotels and Lodges	1.4630

[a] N = 30 except for deletions where the industry/SMSA male employment figure is less than 50. For details see Spilerman (1968, pp. 168-69).

[b] Prefixed numerials refer to industry order in Table 125, 1960 Census of Population.

TABLE 3. STABILITY OF THE PATTERN OF NEGRO MALE EMPLOYMENT BY INDUSTRY, FOR NON-SOUTH[a]

Ratio of CV's	Standard Deviation of the Industry Propensity -- $SD(M_{Ic})$			
	Low	Low-Intermediate	High-Intermediate	High
Low		38-Medical and Health Serv.	36-Other Personal Services 41-Welfare and Religious Serv.	37-Entertainment and Recreation
Low-Intermediate	30-Other Retail Trade 26-Wholesale Trade 3-Construction 33-Repair Serv.	28-General Merch. 40-Education - Private 7-Fabricated Metal Products	25-Utilities and Sanitary Serv. 29-Eating and Drinking Places 32-Business Serv.	21-Railroads 5-Primary Ferrous 35-Hotels and Lodges
High-Intermediate	27-Food and Dairy Stores 17-Printing, Publishing 31-Finance, Insur. Real Estate 42-Other Prof.Serv. 24-Communications	8-Machinery, Exc. Electrical 13-Other Durables 20-Other Non-Durables	14-Food Products 43-Public Admin. 23-Other Transp. Services	10-Motor Vehicles
High	9-Electrical Mach. 39-Education - Public	22-Trucking Serv. 11-Aircraft and Parts 2-Mining	4-Furniture and Wood Prod. 18-Chemicals	12-Other Transp. Equip. 16-Apparel Prod. 15-Textile Mill Products 19-Rubber and Plastic 6-Primary Non-Ferrous

[a]See Text for description of the table construction; data are from Table 1.

TABLE 4. STABILITY OF THE PATTERN OF NEGRO MALE EMPLOYMENT BY INDUSTRY, FOR SOUTH[a]

Ratio of CV's	Standard Deviation of the Industry Propensity -- $SD(M_{Ic})$			
	Low	Low-Intermediate	High-Intermediate	High
Low	30-Other Retail Trade 36-Other Personal Services 28-General Merch.	41-Welfare and Religious Serv. 24-Communications 38-Medical and Health Serv.	21-Railroads	29-Eating and Drinking Places 35-Hotels and Lodges
Low-Intermediate	26-Wholesale Trade 33-Repair Services 31-Finance, Insur. Real Estate 43-Public Admin.	32-Business Serv. 3-Construction 14-Food Products	39-Education - Public	37-Entertainment 25-Utilities and Sanitary Serv. 5-Primary Ferrous
High-Intermediate	27-Food and Dairy Stores 42-Other Prof. Services 17-Printing and Publishing	7-Fabricated Metal Products 8-Machinery, Exc. Electrical 20-Other Non-Durables	23-Other Transp. Services 16-Apparel Prod. 13-Other Durables 22-Trucking Serv. 40-Education - Private	
High	11-Aircraft and Parts	9-Electrical Machinery	10-Motor Vehicles 18-Chemicals 12-Other Transp. Equipment	15-Textile Mill Products 19-Rubber and Plastic 2-Mining 4-Furniture and Wood Prod. 6-Primary Non-Ferrous

[a]See text for description of the table construction; data are from Table 2.

Sensitivity to community percent Negro--A low value of $SD(M_{Ic})$ indicates stability of the industry propensity. An industry with this characteristic will consistently employ Negro labor at M_I standard deviations from the Negro population percentage in a community. Because the findings with respect to this type of stability are more easily explainable for the South, the results for this region are considered first.

Column 1 of Table 4--the industries with highest stability of the propensity--contains retail trades which have a neighborhood clientele (27-Food and dairy stores; 28-General merchandise retailing; 30-Other retail trade; and 33-Repair services which includes auto repair and garages); services which, while not located in residential neighborhoods, are provided on a racially segregated basis and therefore support a dual labor market (17-Printing and publishing; 31-Finance, insurance and real estate; 42-Other professional services, which consists of legal services, engineering firms, and accounting and bookkeeping services); and industries in which the use of impersonal criteria is institutionalized in the hiring decision either because of a vital need for high competence (11-Aircraft and parts) or because of governmental regulations (43-Public administration--federal administration and postal service are presumably the salient component industries with respect to Negro employment).

This category also includes two industries, 26-Wholesale trade and 36-Other personal services, for which it is less apparent why they would have a stable propensity. One may speculate that Negro employment in wholesale trade is responsive to the proportion Negro in a community because retail establishments, the clients of wholesale firms, respond to this variable. The second industry category, 36-Other personal services, includes some

component industries which serve a segregated clientele--barber shops, funeral homes--but also others which have large numbers of unskilled positions that are consistently filled with Negro labor--laundering, cleaning and dyeing services--and for which we expect a low CV value. In fact, this industry shares with 30-Other retail trade and 28-General merchandise retailing the distinction of having a low rank on both stability measures.[10]

In the non-South, the low category on the SD measure (column 1 of Table 3) contains fewer service industries and retail trades--28-General merchandise retailing and 36-Other personal services do not appear. However, 3-Construction, 9-Electrical machinery, 24-Communications and 39-Education-public are now in this category. With respect to 3-Construction, although Negroes are largely excluded from the skilled building trades, they are employed in significant numbers in laboring capacities and as craftmen's aides. The presence of this industry in the low category on $SD(M_{Ic})$ probably indicates that Negro employment in the laboring capacities of the construction trades varies in proportion with SMSA percent Negro. With regard to the other industries in this category, it is not evident why they, in particular, should vary so closely with community percent Negro.

Tendencies toward a caste division of labor--A second type of stability was suggested for industries in which a tendency exists toward a caste division of labor. Industries in which the work positions can be clearly delineated into Negro and white tasks--either as a result of widely held mores, or because whites are disinclined to work at some tasks--can be expected to recruit Negro labor where the Negro population is small, but to limit their entrance where Negro labor is more readily available. The Negro employment rate in an industry with this division of labor should therefore function

as a "homeostatic variable" with respect to SMSA percent Negro; it should show less variation over communities than the latter statistic. In Tables 3 and 4, the top row presents the industries for which the ratio of the CV's is less than one, i.e., the industries for which a tendency toward a caste division of labor can be presumed to be an important determinant of their rates of Negro employment.

One would expect a tendency toward a caste arrangement to be more prevalent in the South. Supporting this contention, nine industries exhibit this pattern in the South, only four in the non-South. The presence of most of the industries which are in the low category can be readily accounted for by the caste-tendency explanation. In the South (row 1 of Table 4), 21-Railroads; 38-Medical and other health services; 29-Eating and drinking places; and 35-Hotels and lodges have skill distributions which decompose into traditionally Negro and white job categories. The reason for inclusion of the other entries is less clear. Three of the industries are also in the low category on the SD measure; the remaining two--41-Welfare and religious services and 24-Communications cannot be readily accounted for. In the non-South, of the four industries which have low variability in their Negro employment rates (row 1 of Table 3), three also exhibit this characteristic in the South. The fourth--37-Entertainment--has slightly greater variability in the South.

The different regional results for 36-Other personal services are particularly interesting. In the non-South this industry is classified in the low category on the CV measure, suggesting the presence of a caste-tendency in its racial division of labor. By comparison, in the South the industry is in the low category on both measures, This regional difference

is probably a consequence of the heterogeneous nature of the industry category which was commented upon earlier--some component industries being responsive to community percent Negro, others tending toward a caste-division of labor. In the non-South, the average SMSA percent Negro value is smaller than in the South (4.6 percent versus 15.6 percent in 1960).[11] Consequently, in the non-South, the component industries which tend toward a caste division of labor would be more important determinants of Negro employment in this composite industry category than the components which respond to community percent Negro. By contrast, in the South the caste-tending components would be largely insensitive to the higher community percent Negro values so the industry category would respond more closely the behavior of its other components, which co-vary with this variable.

The presumption that a smaller coefficient of variation for the industry rates of Negro employment than for the SMSA percent Negro values is indicative of a caste division of labor can be tested empirically. If industries in the low CV category do, in fact, maintain a caste-division of labor and regulate their rates of Negro employment within narrow limits, then the proportion of the Negro labor force in a community which is employed by these industries should vary in an inverse fashion with community percent Negro. The data in Table 5 support this contention. In the non-South the proportion of the Negro male labor force in the low CV industries ranges from .123 for the quartile of communities with smallest percent Negro values, to .073 for the quartile with largest percent Negro populations. In the South, the respective proportions are .322 and .209. Consequently, in very small percent Negro metropolitan areas, either a decided effort is made by the caste-tending industries to recruit Negro labor or some self-selection process on

the part of Negroes is operative. In either case, the outcome is the same: A greater tendency on the part of Negroes in small percent Negro communities to accept employment in industries which contain large numbers of traditionally Negro occupations.

TABLE 5. PERCENT OF THE NEGRO MALE LABOR FORCE EMPLOYED IN INDUSTRIES HAVING A HYPOTHESIZED CASTE STRUCTURE, BY COMMUNITY PERCENT NEGRO[a]

Region	Community Percent Negro			
	lowest quartile[b] of communities	low-medium	high-medium	highest quartile of communities
Non-South	.123 (17)	.090 (17)	.084 (18)	.073 (18)
South	.322 (7)	.220 (7)	.222 (8)	.209 (8)

[a]Entries are average percentages of the Negro male labor force employed by industries in the low category on the CV measure in Tables 3, 4.

[b]Parenthesized values indicate the number of communities over which the average was computed.

Implications of this analysis--Several investigators have reported that there generally is less discrimination toward Negroes in small proportion Negro communities. At the same time, it has been noted that this tendency does not appear to apply with regard to occupational discrimination. For example, Ralph Turner, using 1940 census data from 67 non-southern cities,

reports a negative association between community percent Negro and employment equality between the races (similarity of their unemployment rates), but a positive association between percent Negro and occupational equality (similarity in the proportions of each race employed in semi-skilled, skilled, or white collar occupations) (Turner 1951, p. 528). Also, Hubert Blalock, in an investigation using a random sample of 150 southern counties, documents a positive relation between population percent nonwhite and several measures of discrimination against Negroes (racial differentials in housing equality, educational attainment, and income level) but finds percent Negro to be uncorrelated with Negro occupational disadvantage. Blalock attributes the absence of a positive correlation in the occupational dimension to "an overflow of the minority group into semi-skilled positions" in large percent Negro locales (Blalock 1957, p. 680).

Norval D. Glenn (1964) explored this question with 1950 census data from 151 Standard Metropolitan Areas. He also concludes that "...Negroes benefit occupationally from being a large percentage of the total population..." (1964, p. 46). Like Blalock, Glenn accepts this finding as evidence for the overflow hypothesis, and suggests that upper-manual jobs become available to Negroes as a result of there being insufficient white workers to staff these positions in large percent Negro communities.

The findings reported in this paper are consistent with the results of Turner, Blalock, and Glenn concerning the occupational advantage to Negroes (or, at least, the absence of a disadvantage) from constituting a large proportion of the total population. However, a more detailed accounting of their contention is suggested by the evidence here of a changing character to the distribution of Negro labor among industries, as a function of

population percent Negro. In small proportion Negro communities, industries which display a tendency toward a caste-division of labor disproportionately hire Negro workers to fill their assortment of "Negro" jobs. By virtue of carrying this stigma, these positions are evidently lower manual; hence the industry distribution of Negroes is at least partially responsible for the low occupational status of Negro males in small proportion Negro locales.

In large percent Negro communities there is an overflow of Negro labor across industry lines, as well as into the higher manual occupations. One may speculate that a two-step process probably characterizes the pathway to Negro occupational advancement as proportion Negro in a community increases. Since the opportunity for occupational mobility by Negroes is necessarily low in the caste-tending industries, it would appear that the overflow across industry lines must occur prior to occupational advancement. A possible scenario would be the following: Once population percent Negro in a community is sufficiently large so that the lower manual positions in caste-tending industries are substantially filled, Negroes compete more vigorously with whites for lower manual positions in other industries. The occupational "overflow" occurs afterwards, and largely in the latter industries since only here would occupational advancement by Negroes in large numbers be possible.

One matter which still remains unsettled from the discussion of the caste-tending industries concerns the reason for Negro willingness to accept employment at stigmatized tasks in small proportion Negro communities. Presumably, and the Blalock (1957) findings support this point, there is less discrimination in these communities so a Negro could avoid the caste-tending industries. One may speculate that employers are willing to pay higher

wages to Negroes to accept unattractive jobs where Negro workers are few if whites are unwilling to work at traditionally Negro tasks. If this contention is valid, we should find a negative correlation between community percent Negro and Negro earnings in industries which have a caste structure. Our data do not permit an assessment of Negro earnings; however Glenn (1964, p. 49) reports that in 1950, in southern SMSA's, "the median income of Negro males was negatively correlated with percent Negro (r = -.528)." Similarly, employment in the caste-tending industries may be attractive as a hedge against replacement by white workers during periods of economic stagnation since, by definition, the possibility of interracial substitution is low. Consistent with this possibility, Glenn (1964, p. 49) reports a lower rate of Negro unemployment in small proportion Negro communities. While the Glenn findings are for all Negro males, not just those employed in caste-tending industries, the results are consistent with the suggested possibility.

4. CONCLUSIONS

It was hypothesized that the interaction between norms of racial contact in this society and the organizational structures of different industries would give rise to diverse forms of stability in the rate of Negro employment. Two distinctive types of stability were analyzed in this paper--stability of the propensity estimates, which relates to the responsiveness of an industry to the community percent Negro value, and stability of the unadjusted Negro employment rates, which stems from organizational imperatives to maintain a unique racial division of labor.

Stability of the propensity estimates was expected to be characteristic of industries which either cater to clientele on a segregated basis, or

adhere closely to universalistic standards in their hiring. Stability of the unadjusted Negro employment rates was expected for industries which contain two distinct groupings of work positions, separated by a wide skill or status difference which effectively precludes promotion across the division.

An empirical procedure was introduced for ascertaining the value of an industry on each dimension of stability. Applying this method to an analysis of the pattern of Negro utilization by industries in the non-South and South, the presence of most industries in the two high-stability categories could be readily accounted for in terms of the preceding discussion.

Further investigation into the category of industries for which a caste-tendency was postulated revealed the presence of a very different industry distribution of Negro manpower in small and in large proportion Negro communities. Even though there generally is less discrimination in small percent Negro communities, this study documented, that especially for the South, Negroes in these communities are poorly situated industrially from the standpoint of occupational advancement.

Based upon these preliminary results, the industries which appear to be the most promising candidates for manipulative efforts to increase Negro employment are the ones least constrained by either tendency toward stability. If, as it presently appears, they can readily adapt to a variety of racial divisions of labor, the benefit-to-cost ratio from articulating pressure upon them should be high.

Footnotes

[1]Many of the characteristics discussed in this paragraph are, more appropriately, attributes of establishments. However, because establishments in the same industry must contend with similar problems of fabrication and marketing, they tend to develop similar technologies and organizational structures (Blauner 1964, pp. 175-78; Woodward 1965, pp. 74-80). Consequently, the inter-firm variation on many variables tends to be largely inter-industry variation.

[2]For a discussion of the conditions under which competition will tend to be inter-group rather than inter-individual see Breton (1966).

[3]Where the work situation necessitates peer interactions that carry an implication of status equality or where it permits informal work groups with a considerable non-instrumental content to develop, whites are likely to object to the inclusion of Negroes. When a service to customers is personalized and requires trust or advice, customers tend to patronize members of their own race. For a discussion of these points see Spilerman (1968, pp. 146-52).

[4]Since the 1960 Census of Population only presents racial data at the SMSA level for the marginals of the industry by occupation cross-tabulation, these alternative responses to community percent Negro cannot be distinguished.

[5]There are theoretical reasons which suggest that the relationship between these variables over the full range of community percent Negro is actually curvilinear (Spilerman 1968, p. 115). However, over the more limited range covered by the SMSA percent Negro values (0 - .28) the relationship can be approximated by a straight line.

Footnotes (cont'd)

[6]For a discussion on the prevalence of such "dead end" positions in the lives of lower class urban Negroes see Liebow (1967, p. 63).

[7]Since the standard deviation of an industry's rates is a function of its mean value, the appropriate statistic for comparing variation is the coefficient of variation, which corrects for the mean. For a set of data points $\{X_i\}$, the coefficient of variation is defined as $\frac{SD\ (X_i)}{X_i}$.

[8]Data are from Tables 125 and 129 of the 1960 Census of Population. All results in this paper are for Negro males.

[9]This term is used here in the technical sense that has been suggested by Arthur Stinchcombe (1968, pp. 80-101).

[10]Conceptually, a low rank on both measures is a contradiction in terms and, in fact, simultaneous zero values on the two measures are not possible. Because of the arbitrary nature of the category divisions in this table, however, the low-low cell is not empty.

[11]These figures are unweighed averages of the community percent Negro values (Spilerman 1968, p. 54).

BIBLIOGRAPHY

Becker, Gary, 1957. The Economics of Discrimination. Chicago: University of Chicago Press.

Blalock, Hubert, 1957. "Percent Non-White and Discrimination in the South." American Sociological Review XXII (December): pp. 677-682.

Blauner, Robert, 1964. Alienation and Freedom. Chicago: University of Chicago Press.

Breton, Raymond, 1966. "Occupational Competition Between Ethnic or Racial Groups." Unpublished manuscript, Johns Hopkins University.

Dewey, Donald, 1952. "Negro Employment in Southern Industry." Journal of Political Economy LX (August): pp. 279-293.

Feldman, Herman, 1931. Racial Factors in American Industry. New York: Harper and Brothers.

Glenn, Norval D., 1964. "The Relative Size of the Negro Population and Negro Occupational Status." Social Forces XLIII (October): pp. 42-49.

Lieberson, Stanley, 1963. Ethnic Patterns in American Cities. New York: Free Press.

Liebow, Elliot, 1967. Tally's Corner. New York: Little Brown.

Spilerman, Seymour, 1968. The Distribution of Negro Males Among Industries in 1960. Unpublished PhD dissertation, Johns Hopkins University.

_____, 1970. Submitted to Human Resources.

Stinchcombe, Arthur, 1967. Constructing Social Theories. New York: Harcourt, Brace and World.

Turner, Ralph H., 1951. "The Relative Position of the Negro Male in the Labor Force of Large American Cities." American Sociological Review XVI (August): pp. 524-529.

U.S. Bureau of the Census, 1963. 1960 Census of Population. Occupational Characteristics. Report PC(2)-7A. Washington: Government Printing Office.

Woodward, Joan, 1965. Industrial Organization: Theory and Practice. London: Oxford University Press.